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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/744,323 | 05/29/2001 | Iftexhar Hussain | GDC-129 | 4435 |
| 24283 | 7590 | 01/10/2005 | EXAMINER | |
| PATTON BOGGS 1660 LINCOLN ST SUITE 2050 DENVER, CO 80264 | | | HOM, SHICK C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2666 | |

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/744,323 | Applicant(s) HUSSAIN ET AL. | |
| | Examiner Shick C Hom | Art Unit 2666 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/29/01 & IDS of 3/11/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 is/are allowed.
- 6) ☒ Claim(s) 1,2,6,14,15,19 and 28 is/are rejected.
- 7) ☒ Claim(s) 3-5, 7-13, 16-18, 20-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/11/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Specification

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.
2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 1-28 are objected to because of the following informalities: in claims 1, 14, 27, and 28 line 1 spell out acronym ABR, i.e. delete "ABR" and insert ---available bit rate ABR---, for clarity. Likewise, in claims 6 and 19 line 2, delete "VC" and insert ---virtual channel VC---. In claims 2-13 and 15-26 line 1, the words "A method" and "An apparatus" seem to refer back to the "method" and the "apparatus" recited in claims 1 and 14 line 1, respectively. If this is true, it is suggested changing "A method" and "An apparatus" to ---The method--- and ---The apparatus---, respectively. Likewise, in

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claims 7, 8, 20, and 21 line 2 delete "a fair share" and insert ---the fair share--- as recited in claim 1 line 10, and claim 14 line 8, respectively. In claims 2, 3, 6, 7, 8 lines 2, 5, 3, 2, 2, respectively, no "step" have been previously recited in the claims therefore delete "said step" and insert ---the step---. In claim 8 line 7 delete "best efforts" and insert ---active--- as in claim 8 line 3. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that

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was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-2, 6, 14-15, 19, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iuoras et al. (6,445,707) in view of (6,331,970).

Regarding claims 1-2, 14-15, and 28:

Iuoras et al. disclose the method for determining the explicit rate for an ABR connection in an ATM switch which serves guaranteed traffic and best efforts connections (see col. 6 line 21 to col. 7 line 13 which recite ATM traffic management using the explicit rate and col. 13 lines 28-57 and col. 12 line 60 to col. 13 line 27 which recite the ABR traffic types being both guaranteed and non-guaranteed or best effort, e.g. for jitter-tolerant applications), comprising: a) determining the available bandwidth in the switch after guaranteed traffic is served; b) determining whether the ABR connection is congested; c) if the ABR connection is congested, determining a fair share of available bandwidth as a function of the number of established best efforts connections in the switch (see col. 41 lines 15-40 which recite allocating bandwidth including the step

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of measuring for each averaging interval rates for ABR traffic and priority traffic clearly reads-on determining bandwidth including after guaranteed traffic is served, i.e. priority traffic; further it recites congestion control using the computed fair rate clearly reads-on the ABR connection being congested including the step of determining the fair share of available bandwidth for the established best efforts connections).

Regarding claims 6, 19:

Iuoras et al. disclose wherein each ABR VC in the switch has its own queue; and said step of determining whether the ABR connection is congested includes comparing the number of cells in the ABR connection queue with a threshold number (see col. 6 lines 37-56 which recite the use of queue length and a threshold value to detect congestion).

For claims 1, 14, and 28, Iuoras et al. disclose all the subject matter of the claimed invention with the exception of d) if the ABR connection is not congested, determining a fair share of available bandwidth as a function of the number of active best efforts connections in the switch; e) determining a new explicit rate as a function of the fair share; and f) replacing the explicit rate for the connection with the new

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explicit rate if the explicit rate is larger than the new explicit rate.

Nieh et al. from the same or similar fields of endeavor teach that it is known to provide d) if the ABR connection is not congested, determining a fair share of available bandwidth as a function of the number of active best efforts connections in the switch; e) determining a new explicit rate as a function of the fair share; and f) replacing the explicit rate for the connection with the new explicit rate if the explicit rate is larger than the new explicit rate (See col. 11 lines 12-40 which recite that if no congestion is indicated and if the new ER is less than MCR then it is given the value of MCR clearly reads-on if connection is not congested, a fair share of available bandwidth is determined and a new explicit rate is determined whereby if the new rate is small, i.e. the old explicit rate is larger, than replacing it with the new explicit rate, i.e. the MCR). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the step whereby d) if the ABR connection is not congested, determining a fair share of available bandwidth as a function of the number of active best efforts connections in the switch; e) determining a new explicit rate as a function of the fair share; and f) replacing the explicit rate for the

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connection with the new explicit rate if the explicit rate is larger than the new explicit rate as taught by Nieh et al. in the communications method and apparatus of Iuoras et al.

The step whereby d) if the ABR connection is not congested, determining a fair share of available bandwidth as a function of the number of active best efforts connections in the switch; e) determining a new explicit rate as a function of the fair share; and f) replacing the explicit rate for the connection with the new explicit rate if the explicit rate is larger than the new explicit rate can be implemented by simply including this step of Nieh et al. when calculating the explicit rate in the method and apparatus of Iuoras et al. The motivation for providing the step whereby d) if the ABR connection is not congested, determining a fair share of available bandwidth as a function of the number of active best efforts connections in the switch; e) determining a new explicit rate as a function of the fair share; and f) replacing the explicit rate for the connection with the new explicit rate if the explicit rate is larger than the new explicit rate as taught by Nieh et al. in the communication method and apparatus of Iuoras et al. being that Nieh et al. teach that it provides more efficiency and more refined rate control for policing of the ABR connection at the transmission end.

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Allowable Subject Matter

7. Claim 27 is allowed.

8. Claims 3-5, 7-13, 16-18, and 20-26 would be allowable if rewritten to overcome the objection(s), set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aweya et al. disclose explicit rate computation for flow control in compute networks.

Kumar et al. disclose apparatus and method for optimizing max-min fair rate control in ABR sessions.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Monday to Friday with alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-27203174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH

DANG TON
PRIMARY EXAMINER